

PROGRAM SUPPORT

Registration Highlights

Registration and Reregistration Status of APHIS Vertebrate Pesticides—The NWRC Registration Unit is responsible for coordinating the development of data required for maintaining or expanding authorized uses of APHIS vertebrate control products. To meet this responsibility, the Registration Unit works closely with scientists to ensure that research results will be acceptable for regulatory purposes and that study designs meet EPA and FDA regulatory guidelines. In addition, the Registration Unit responds to requests from field personnel for new products or changes to existing products that will improve their ability to manage problem wildlife. Technical assistance and information are provided to State WS personnel, Federal, and State agricultural and conservation agencies, as well as other nongovernment individuals and groups.

Vertebrate pesticide products developed by APHIS are registered with the EPA under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). In 1988, FIFRA was reauthorized by Congress. As a consequence, EPA was required to reassess every active ingredient used in pesticides for reasons of public and environmental safety and product efficacy. APHIS held registrations for seven active ingredients when FIFRA was reauthorized: an avicide (DRC-1339), two rodenticides (strychnine and zinc phosphide), a fumigant (a gas cartridge that contains carbon and sodium nitrate), and two predacides (compound 1080, used in the Livestock Protection Collar, and sodium cyanide, used in the M-44).

Requirements for reregistering all seven active ingredients used in APHIS' 18 end-use products have been fulfilled. In addition to previously registered compounds, within the last 1.5 years APHIS successfully registered an avian repellent, Mesurol™ (methiocarb), for the protection of endangered and threatened species. Table 2 lists vertebrate control pesticides developed by APHIS, as well as authorized target species and use sites for each product.

In 2001, the Registration Unit focused efforts on the development of new products, such as a toxicant for the BTS, and on expanding the uses of currently registered products for the protection of endangered species, public health, and agriculture. The following items highlight some of the major activities.

M-44: In conjunction with WS state offices in Idaho and Utah, an Experimental Use Permit (EUP) has been requested to evaluate the efficacy of using the M-44 to control canine predators to protect ground-nesting birds, primarily the sage grouse. Sage grouse populations have been declining and are now so low that the species has been nominated for examination by FWS as a candidate for threatened or endangered status. Predation has been shown to be a significant contributor to this decline. If approved, this EUP will provide the data necessary for changing the M-44 label to include the protection of ground-nesting birds and provide wildlife managers another tool to prevent species declines.

DRC-1339: The primary registration activity for DRC-1339 products has been the submission of a label amendment requesting shortened plant-back intervals and reduced harvest restriction for rice and sunflower crops grown on the small acreage used as bait sites. Data from a 14C-DRC-1339 confined rotational crop study were submitted to support this label amendment request. These data show that residues detected in crops harvested in bait sites are not DRC-1339 and are not of toxicological concern. A decision on plant-back intervals is expected by the EPA in early FY 2002.

At the request of an agricultural commodity group, the Registration Unit served as a technical consultant and study coordinator for developing additional toxicological data for DRC-1339. Acute toxicity testing was conducted on three species of songbirds to better assess the potential nontarget risks of blackbird control operations.

Acetaminophen: During FY 1999, APHIS obtained a 3-year Emergency Use Registration from EPA to use acetaminophen as a toxicant to control the BTS on Guam. During FY 2001, the Registration Unit developed the data package to obtain a full Section 3 registration under FIFRA, for use of acetaminophen in bait stations on Guam and other island ecosystems. More than 50 individual data requirements were submitted to the EPA for this registration application. With the exception of toxicological studies on birds, data were obtained from the open literature or by

TABLE 2—VERTEBRATE CONTROL PRODUCTS CURRENTLY REGISTERED BY USDA UNDER THE FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT (FIFRA)

EPA registration	Product name	Species controlled	Use site
RODENTICIDES			
ZINC PHOSPHIDE BAIT PRODUCTS			
56228-03	Zinc phosphide on wheat for mouse control	Voles, white-footed mice	Ornamentals, orchards, vineyards, rangeland, forests, lawns, golf courses, parks, nurseries, highway medians
56228-06	Zinc phosphide concentrate for rodent and lagomorph control	Voles, mice, rats, hare, woodchuck, ground squirrels, muskrat, nutria	In and around homes, and industrial / commercial, agricultural, public buildings. Orchards (non-bearing), groves, nurseries, vineyards, ornamentals, highway medians
56228-14	Zinc phosphide on oats	Prairie dogs, voles, ground squirrels, white-footed mice	Orchards and groves, rangeland, non-crop borders
STRYCHNINE BAIT PRODUCTS			
56228-11	0.5 percent strychnine milo pocket gopher bait for use in burrow builders	Pocket gophers	Underground burrow systems in open fields, rangeland, and pasture and around airports
56228-12	0.5 percent strychnine on oats field bait	Pocket gophers	Underground burrow systems in open fields, rangeland, and pasture and around airports
56228-19	0.5 percent strychnine milo for hand baiting pocket gophers	Pocket gophers	Underground burrow systems in open fields, rangeland, and pasture and around airports
56228-20	0.5 percent strychnine on oats for hand baiting pocket gophers	Pocket gophers	Underground burrow systems in open fields, rangeland, and pasture and around airports
BURROW FUMIGANT PRODUCTS			
56228-02	Gas cartridge	Woodchuck, marmot, ground squirrels, prairie dogs	Underground burrow systems in open fields, lawns, noncrop and reforested areas, golf courses, and rangeland

EPA registration	Product name	Species controlled	Use site
PREDACIDES			
BURROW FUMIGANT PRODUCTS			
56228-21	Large gas cartridge	Coyote, red fox, striped skunk	Underground burrow systems in open fields, lawns, noncrop and reforested areas, golf courses, and rangeland
SODIUM CYANIDE PRODUCTS			
56228-15	Zinc phosphide on wheat for mouse M-44 cyanide capsules	Coyote, red fox, gray fox, feral dog	Pastures, rangeland, forests
56228-32	M-44 cyanide capsules—Arctic fox	Arctic fox	Noncrop areas in the Aleutian Islands
COMPOUND 1080 PRODUCTS			
56228-22	Sodium fluoroacetate (compound 1080)—Livestock Protection Collar (LPC)	Coyote	Pastures
56228-26	Compound 1080—LPC manufacturing use product	NA	For use in manufacturing the LPC
AVICIDES			
COMPOUND DRC-1339 PRODUCTS			
56228-10	Compound DRC-1339 concentrate—feedlots	Blackbirds, starlings, grackles, cowbirds	Beef cattle, poultry, and swine feedlots
56228-17	Compound DRC-1339 Concentrate—gulls	Gulls	Landfills and airports
56228-28	Compound DRC-1339 Concentrate—pigeons	Pigeons	Structures: rooftop containers, bare ground in fenced areas
56228-29	Compound DRC-1339 Concentrate—livestock, nest, and fodder depredations	Raven, crow, magpie	Protect livestock, nesting waterfowl, endangered species, and fodder or silage
56228-30	Compound DRC-1339 Concentrate—staging areas	Blackbirds, starlings	Bird staging areas
AVIAN REPELLANTS			
56228-33	Mesuroi 75 percent wettable powder aversive conditioning egg treatment	Crows, ravens	Noncrop areas adjacent to nesting areas of threatened or endangered species

research conducted by NWRC scientists. NWRC conducted nine studies that directly related to nontarget species hazards. These and other data were summarized and provided the basis of a hazard assessment for species potentially affected by a baiting program.

Strychnine and Zinc Phosphide

Consortia: NWRC staff members coordinated two consortia, the Strychnine Consortium and the Zinc Phosphide Consortium. The primary consortia activity last year was development of a human poisoning-incident data submission for rodenticides containing zinc phosphide. The submission summarized all incident data collected by the American Association of Poison Control Centers, Toxic Exposure Surveillance System during 1993 through 1998.

FDA Wildlife Drug Authorizations—

APHIS has five Investigational New Animal Drug (INAD) authorizations with the FDA that allow interstate transport of the compounds for experimental purposes. Three of the compounds—GnRH vaccine, PZP vaccine, and 20,25-diazacholesterol (Diazacon)—are being tested as wildlife contraceptives. The other two compounds, alpha-chloralose and propiopromazine hydrochloride, are immobilizing agents. Table 3 provides a list of compounds under APHIS INADs, species the compounds have been tested on, and species proposed for future work.

Two of the INADs are for immunocontraceptive vaccines containing GnRH and PZP. Research efforts are underway to develop a dart-delivered single-shot vaccine that would be effective for multiple years. The current focus of registration activities on PZP and GnRH involves determining data requirements for FDA approval and consulting with scientists on registration requirements and study design.

The immobilizing agent alpha-chloralose is authorized for use to live-capture waterfowl, coots, and ravens. It is currently available as a powder and must be mixed with corn oil prior to injecting it into individual bait materials. Research has shown that tableted alpha-chloralose is equally safe and effective on waterfowl. In addition, since it does not require prior mixing and using syringes to treat bait materials, it is a safe and easy alternative for field biologists. Consequently, APHIS has requested that the FDA allow the use of tableted alpha-chloralose in addition to the powdered formulation currently used under INAD 6602 for capturing waterfowl.

Regulatory Assistance Provided to Federal, State, and Nongovernment Organizations—

WS program personnel or other Government and nongovernment cooperators often contact the NWRC Registration Unit for information when preparing Environmental Assessments, Environmental Impact Statements, and Section 7 consultations with the FWS. NWRC is the primary supplier of these data to the WS program and its cooperators. Often responses to these inquiries entail preparing unique summaries and interpretations of NWRC research. NWRC personnel are providing technical assistance to a consortium of State, Federal, and nongovernmental organizations in Hawaii by developing a registration package and risk assessment for registering diphacinone as an aerially delivered anticoagulant rodenticide to control rats in conservation areas. These efforts are designed to lower rat populations and reduce rat predation on forest nesting birds. Submission of this registration request by the State of Hawaii is expected in FY 2002.

Information Transfer Activities—With the cooperation of headquarters staff, the Registration Unit expanded the NWRC Web site at <http://www.aphis.usda.gov/ws/nwrc> to include sample copies of the most current APHIS vertebrate pesticide labels as well as WS "Tech Notes," which provide information on the proper use of APHIS pesticide products. Current information on NWRC's investigation of wildlife immobilizing and contraceptive agents can be found at <http://www.aphis.usda.gov/ws/nwrc/RegUnit.htm>.

The Registration Unit continues to develop a fully searchable, electronic toxicology database (DRC Database—Denver Research Center). This database contains data for 6,800 chemicals that were screened for toxicological and repellancy properties at the Denver Wildlife Research Center between 1960 and 1987. This database provides rapid access to the results of more than 23,000 individual toxicity tests conducted with up to 127 species (7 plants, 84 birds, 32 mammals and 1 amphibian). Final preparations are underway to publish the contents of this database in the APHIS Publication Series. Additionally, efforts are underway which will allow posting the entire database in a searchable form on the NWRC Web site.

TABLE 3—USDA VERTEBRATE CONTROL PRODUCTS CURRENTLY AUTHORIZED FOR INVESTIGATION BY THE U.S. FOOD AND DRUG ADMINISTRATION

INAD no.	Product name	Authorized species	Research comments
WILDLIFE IMMOBILIZING AGENTS			
6602	Alpha-chloralose (AC)	Pigeons, coots, ravens, waterfowl (Anseriformes)	AC can only be used to live-capture birds. It cannot be used as a toxicant. It is currently available as a powder for formulating with corn oil. APHIS has requested that FDA allow the use of tableted AC for waterfowl in addition to the powdered product. On a case-by-case basis, the FDA has authorized the use of AC to remove peafowl, wild turkeys, and black-crowned night herons.
9528	Propiopromazine hydrochloride	Wolves, coyotes, feral dogs	Current research evaluates capture rates and the rate of nontarget incidents. No registration activity is pending.
WILDLIFE CONTRACEPTIVE AGENTS			
10006	Gonadotropin releasing hormone (GnRH) (Gonacon®)	White-tailed deer, coyotes, prairie dogs, and other rodents	NWRC has been involved in testing GnRH on white-tailed deer, coyote, Norway rats, and rabbits. Current projects involve bison, and domestic pigs; plans are being made for work on wild horses and California ground squirrels. The registration unit is assisting with product registration plans for a single-shot GnRH vaccine.
9958	Porcine zona pellucida (PZP) (Zonacon®)	White-tailed deer, mule deer, coyotes	NWRC has been involved in testing PZP on white-tailed deer, coyotes, and rabbits. Current projects are evaluating a single-shot vaccine on white-tailed deer. The registration unit is assisting with product registration plans for a single-shot GnRH vaccine.
10700	20, 25 diazacosterol dihydrochloride (Diazacon™)	Black-tailed prairie dogs	Diazacon was previously registered by the EPA as a pigeon contraceptive (Ornitrol™). NWRC has been involved in testing diazacosterol on black-tailed prairie dog, Norway rat, and voles. Currently, projects are evaluating the ring-necked dove and Norway rat; additional work is planned on the black-tailed prairie dog. FDA authorization is not currently being pursued for diazacosterol.